

# Epidemiological treatment of gonorrhoea and non-specific genital infection in female sexual contacts

## Current practices in STD clinics in England and Wales

ELIZABETH M BELSEY

*From the Academic Department of Genitourinary Medicine, Middlesex Hospital Medical School, London*

**SUMMARY** In a study to quantify epidemiological treatment given to female contacts for gonorrhoea and non-specific genital infection in STD clinics in England and Wales two-thirds of women treated for gonorrhoea during 1978 were named contacts, a quarter of whom received epidemiological treatment. Only 35% of cases treated in this way were subsequently confirmed microbiologically, but nearly 1000 unconfirmed cases were returned as if they were true cases of gonorrhoea. In view of modern culture techniques and the low default rates found in this study, there seems to be little justification for the use of epidemiological treatment for gonorrhoea.

Of women who gave a history of exposure to non-specific urethritis, 86% received epidemiological treatment. The variation in diagnostic and notification criteria for non-specific genital infection results in virtually worthless statistics for female cases treated.

### Introduction

Epidemiological treatment has been defined as treatment given to named contacts of patients after a history of exposure to disease but without or in advance of confirmatory pathological findings.<sup>1</sup> A survey of the diagnostic, treatment, and reporting criteria used in sexually transmitted diseases (STD) clinics in England and Wales in 1976 showed that epidemiological treatment would be given to female contacts of men with a diagnosis of gonorrhoea or non-specific urethritis in most clinics (85% and 76% respectively).<sup>1,2</sup> In some contacts so treated for gonorrhoea, the diagnosis will be confirmed subsequently by culture. In 19% of clinics, however, consultants would return cases treated epidemiologically to the Department of Health and Social Security (DHSS) as 'real' cases of gonorrhoea even when the eventual smears and cultures gave negative results. In the remaining clinics such cases were returned as 'other conditions requiring treatment' (D2) or 'other conditions not requiring treatment' (D3). Cases treated epidemiologically for non-specific genital infection (NSGI) would be returned as 'true' cases in a high proportion (60%) of

clinics. These findings imply over-reporting, not only of cases of gonorrhoea and NSGI but also of those in the diagnostic categories D2 and D3.

Little is known, however, about several factors which could affect the number of patients treated epidemiologically and thus the extent to which the published statistics are distorted. The above figures relate to clinics not to the numbers of patients seen in those clinics. The number of patients who visit clinics as named contacts is not known with any certainty. It was, therefore, decided that a study should be carried out to quantify epidemiological treatment of gonorrhoea and NSGI and to estimate the degree of over-reporting or misreporting, or both, that results. The study was limited to female contacts, since the previous study had shown that male contacts would be given epidemiological treatment in considerably fewer clinics than female.

### Methods

A retrospective sample of female cases treated in STD clinics in England and Wales during 1978 was drawn in two stages, clinics being selected at the first stage and cases within selected clinics at the second. The sample design is fully described elsewhere.<sup>3</sup>

For cases diagnosed, treated, or returned as gonorrhoea during 1978 the following information was recorded: the patient's age and type of contact

Address for reprints: Miss E M Belsey, Academic Department of Genitourinary Medicine, Middlesex Hospital Medical School, London W1

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evidence provided (including none); dates of her first visit and the visit on which treatment was given; results of cervical, urethral, and rectal smears and cultures for each visit up to and including that on which the patient was treated; whether treatment given was epidemiological; and the diagnostic category used to return the case. Similar information was recorded for cases diagnosed, treated, or returned as NSGI, except that smear and culture results at each visit were replaced by the patient's symptoms and signs, the findings on microscopical examination of cervical and urethral smears (+, ++, or +++ leucocytes per high power field), and the results of other microbiological tests.

## Results

### EPIDEMIOLOGICAL TREATMENT FOR GONORRHOEA

A sample of 2933 cases diagnosed, treated, or returned as gonorrhoea was obtained. Exactly one-third of patients treated were not named contacts and thus could not have been given epidemiological treatment. Of the remaining patients who provided some evidence of a history of exposure to the disease, 24% were treated epidemiologically.

Among women treated in this way, 12% gave a verbal history of exposure to gonorrhoea. In another 2%, a verbal history was corroborated by staff at the clinic where the original male patient was treated. Forty-four per cent of female contacts attended the same clinic as the male patient, and the remaining 42% produced a contact slip. There was no evidence that the strength of the contact evidence provided influenced the physician's decision to give or withhold epidemiological treatment. Equally, the likelihood that a contact would receive this form of treatment was unrelated to her age.

Although the treatment given to a female contact may be epidemiological at the time, in that the results of microbiological tests obtained so far are negative, the diagnosis may be confirmed subsequently by smear in a few clinics where smear results are not immediately available or, more often, by culture. Thirty-five per cent of cases treated epidemiologically were later proved to be true cases of gonorrhoea.

Using the findings of this study, together with the number of female cases of gonorrhoea returned from all STD clinics in England and Wales during 1978 (21 529), it is estimated that in that year a total of 3665 (standard error 372) female cases were treated epidemiologically as if the patient had gonorrhoea. Microbiological confirmation of the diagnosis was obtained subsequently in 1278 of these cases. Such cases should properly be returned under the heading

'gonorrhoea' on the SBH60 form. In this study, however, interest centred on the way in which the cases treated epidemiologically, but never proved (2387), were returned. Forty-one per cent of these, or just under 1000 estimated cases, were returned as if they were true cases of gonorrhoea. These represent 5% of all female cases of gonorrhoea reported in 1978. Another 35% of unconfirmed cases were returned in the diagnostic category 'other conditions requiring treatment', while 7% were included with 'other conditions not requiring treatment', despite the fact that treatment had been given. Nine per cent (224) of cases were not reported at all. The remaining unconfirmed cases were returned either as 'non-specific genital infection' or in some other diagnostic category.

Six per cent of contacts who had negative smear results at their initial visit, were not treated epidemiologically, but were subsequently proved to be infected by culture defaulted before treatment. Among patients who attended with a contact slip, however, the default rate was only 2% compared with 14% among those who gave a verbal history of exposure to gonorrhoea.

### EPIDEMIOLOGICAL TREATMENT FOR NSGI

A sample of 3265 cases diagnosed, treated, or returned as NSGI was obtained. Cases treated as NSGI fall into two main categories: those diagnosed by the physician on the basis of symptoms, signs, and microscopical findings; and those treated epidemiologically. This division is complicated by the fact that consultants in 40% of clinics do not recognise NSGI as a distinct clinical entity in women and therefore will not treat it as such.<sup>4</sup> All treatment given in these clinics must, by definition, be epidemiological. In addition, cultures for *Chlamydia trachomatis* or *Haemophilus vaginalis* are performed in a number of clinics. When the culture result is positive, the case must still be notified as NSGI, since no other more appropriate category is available on the SBH60.

Thirty-three per cent of patients treated for NSGI gave no history of exposure to non-specific urethritis. These patients were therefore treated because the physician recognised NSGI and diagnosed it as the primary condition. Fourteen per cent of patients who had attended the clinic as contacts were also treated only after the diagnosis had been made. A very high proportion of contacts (86%), however, received epidemiological treatment.

Among women given epidemiological treatment, 15% gave a verbal history of exposure to non-specific urethritis. In a further 1% a verbal history was confirmed by checking with the clinic at which the male patient had been treated. Twenty-five per cent

of female contacts attended the same clinic as their partner, but the majority (59%) produced a contact slip. The proportion of contacts given epidemiological treatment did not differ according to the strength of the contact evidence provided or between age groups.

Only 2% of cases treated epidemiologically were subsequently proved by positive culture results for *Chlamydia trachomatis* or some other organism.

The number of female cases of NSGI returned from all STD clinics in England and Wales during 1978 (20 641), together with the findings of this study, may be used to estimate the number of cases treated epidemiologically and the numbers of such cases notified in the various diagnostic categories. Female cases treated epidemiologically as NSGI totalled 13 191 (standard error 1234). Culture confirmation was obtained subsequently for 286 of these cases. Over three-quarters (10 079) of the remaining 12 905 cases treated but never diagnosed were returned in the diagnostic category 'non-specific genital infection'. These cases comprised 49% of all female cases of NSGI notified in 1978. Thirteen per cent of unconfirmed epidemiologically treated cases (1737) were returned as 'other conditions requiring treatment'. No return was made for 464 (4%) cases.

## Discussion

The aims of this study were simply to estimate the numbers of female contacts given epidemiological treatment for gonorrhoea or NSGI in one year and to quantify the over-reporting or misreporting that occurs as a result. Its purpose was not to make any judgments on the use of this form of treatment. In the light of the data collected, however, it is difficult to refrain from making some comments on the practice itself.

Twenty-four per cent of female contacts treated for gonorrhoea were treated epidemiologically, and nearly two-thirds of these cases remained unconfirmed. Recent studies have shown that over 90% of gonococcal infections are detected by the first set of tests.<sup>5 6</sup> It is, therefore, likely that most patients treated epidemiologically, in whom the diagnosis was not confirmed subsequently by culture, did not have gonorrhoea. It can be argued that at the time of treatment the physician is not to know whether a contact will prove to be infected or uninfected and is therefore justified in giving epidemiological treatment. On the other hand, indiscriminate treatment has associated costs in addition to the obvious financial ones: the social cost to the patient who may feel stigmatised unnecessarily; and the clinical cost in terms of

relative and total resistance of gonococci to antibiotics. In addition, infected contacts rarely default if not treated epidemiologically. Since only 2% of patients who presented with a contact slip failed to reattend for treatment, efficient contact tracing can apparently keep default rates to a minimum.

There is clearly no justification for the practice of returning unconfirmed epidemiologically treated cases as if they are true cases of gonorrhoea. Given the SBH60 as it stands, 'other conditions requiring treatment' is probably the most appropriate category. It has already been pointed out, however, that this diagnostic category is used as a dumping ground'.<sup>7</sup> Since epidemiological treatment will doubtless continue to be given, a separate heading for such cases is needed. At present, the number of cases of gonorrhoea notified nationally could increase or decrease simply because some consultants altered their treatment or notification policy.

The same considerations do not apply to the diagnosis, treatment, and notification of NSGI, since the diagnosis cannot be 'proved' as such. The variation in diagnostic and notification criteria between clinics, however, results in virtually worthless statistics for female cases treated. In some clinics all cases, whether diagnosed or treated epidemiologically, are returned under the heading 'non-specific genital infection'. In other clinics, where epidemiologically treated cases are returned as 'other conditions requiring treatment', and the consultant does not recognise or treat NSGI as a distinct clinical entity in women, it is not notified at all. The findings of this study further confirm the need for acceptable and reproducible diagnostic criteria for NSGI as a primary disease entity and for a separate category on the SBH60 in which cases treated epidemiologically could be returned. When more clinics have acquired the facilities to culture for *Chlamydia trachomatis*, another heading for such infections should also be provided.

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